Engineering Designee News

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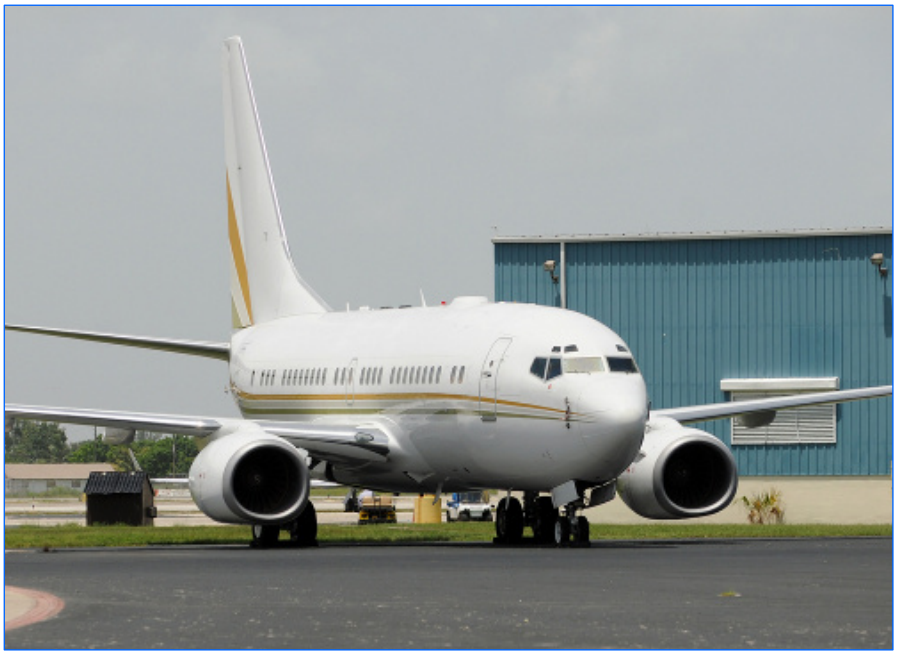
Using the Major Alteration Job Aid

It's not just for Flight Standards

It's not a secret, but many people don't know that there is a major alteration job aid and it can be found in the Flight Standards Information System order 8900.1. Volume 4, Chapter 9, Section 1, of that FAA Order is titled "Perform Field Approval of Major Repairs and Major Alterations". Of course, Aircraft Certification personnel don't perform field approvals so that explains why some aren't familiar with an order that guides Flight Standards inspectors on the major alteration approval process. But still, the process of approving data for a major alteration depends heavily on Aircraft Certification personnel and they should not only be familiar with it but must follow it.

For several years AIR training has been instructing ACOs, DERs, and ODAs to follow this job aid



found in figure 4-68 of section 1 when approving data for a major alteration. The job aid is made up of tables that list which method(s) of approval may be used for specific major alterations and are divided into four product categories: General Aviation Airplanes, Rotorcraft, Transport Airplanes, and Engines/Propellers/APUs. The lists in the tables came from the Product Directorates and were originally contained in AIR Order 8110.46.

Both AIR and AFS expect their personnel, including designees, to comply with the prescribed method(s) in the job aid when determining how data can be approved for major alterations. The methods identified for approval of alteration data are supplemental type certificate (STC), engineering assistance (ENG), and evaluation (EVL). If the job aid indicates a particular alteration requires approval by STC, then an STC (or TC amendment) is required. Likewise, if a particular alteration requires engineering (ENG) then the data must be approved by FAA engineering (ACO, DER), or ACO concurrence for field approval must be obtained. Items indicated as EVL may be eligible for field approval by an ASI, but they require evaluation and review of guidance to determine if the field approval process may be used.

A recent issue with a particular item on the list for transport airplanes has caused further clarification to be issued. The item: "Changes to primary structures..." requires an STC for all such changes. However, varied interpretation of the job aid, and this item in particular, has resulted in non-standard application and impacted some companies in the alteration business.

The Aircraft Engineering and Aircraft Maintenance Divisions have jointly issued guidance that clarified "Changes to principal or primary structural elements (principal elements that carry flight, ground, or pressure loads) defined by AC 25.571-1, as amended" to allow certain alterations that affect principal structural elements to be accomplished without an STC. This clarification memo can be found on RGL and will be incorporated in a future change to the 8900.1.

Aircraft Engineering and Aircraft Maintenance policy offices will work together and continue to monitor compliance with the job aid so that clarifications or revisions to it can be provided as necessary.

Recent Designee Policy

- ODA Data Approval Functions
- ODA Administrator Training
- Major Alteration Job-Aid
- Recurrent Training Attendance for Acoustical DERs/UMs
- Notification of Designee Activity to Foreign Airworthiness Authorities

Repair Specification DERs:
What are they and how will they help?

First off, a little background on Repair Specifications. A Repair Specification is a new repair procedure that is intended to be used repeatedly, requires FAA data approval, and is authorized for use by the FAA for a specific maintenance entity. It includes step by step "how to" instructions for performing the repair. After implementation by AIR Notice 8110.RS, a Repair Specification will be the ONLY method of authorization for open ended multiple use repairs with the exception of Design Approval Holder data.

Today, approving multiple use repair data applicable to non-serial number specific articles is allowed. That data can be used by a maintenance organization

to repetitively perform the repair provided the specification is authorized by its operations specifications, air carrier maintenance program, or current capability list acceptable to the FAA.

The data associated with a repair generally consists of drawings (what the repair will look like when it is finished) and analysis (calculations based upon the drawings that show compliance to the regulations). Flight Standards is responsible for determining if the repair as accomplished is appropriate, and whether or not the repair station is capable of accomplishing the repair.

Flight Standards has identified a need for engineering assistance in reviewing the Repair Specifications. The idea is to make certain that the Repair Specifications do not violate any of the assumptions made in the approved data about the design of the repaired product. Flight Standards currently can request ACO assistance today for these types of multiple use repairs.

In the future, designees who the ACO has delegated can support the approval of the Repair Specification for an applicant. This is NOT a new type of designee. Rather it is a special delegation to approve major repairs and manage repair specification approvals. Among other requirements as laid out in Notice 8110.RS, a DER must have previously held the Special-Major Repairs delegation in order to be considered for this special delegation.

Where are we at now? Flight Standards issued FAA Order 8300.14 in Dec 2007, and some Aircraft Certification Offices (ACO) began authorizing DERs with RS authority in Feb of 2008. There were some coordination and implementation issues in this initial release so the order was made inactive in May 2008.

After review and discussion of the comments to both the Notice 8110.RS and Order 8300.14, it was determined that all of the information should be contained in Notice 8110.RS. Order 8300.14 will not be published. The revised Notice is now undergoing review and is scheduled to be published by May of 2010.

Delegation by CFR Part

FAA to change how it delegates authority to DERs

You may have heard the FAA is changing the way we identify a DER's authority. One of the terms that have been used to describe this effort is "new charts". This term is really a misnomer. In reality there will not be any new charts. The existing chart system of delegation will be replaced with an IT tool. This new method is more properly called a **regulation based delegation system**.

In order to better understand why and what we are doing, let's take a look at how we identify DER authority today.

Today, a person applies to be a DER and requests which delega-

tion they feel qualified for by using the charts in the back of Order 8110.37. These charts are divided into disciplines (e.g. Structural, Flight Test Pilot, Powerplant, etc…). Using the process in Order 8100.8, the FAA evaluates the applicant and then grants some, all or none of the requested delegation as defined in the appropriate chart in Order 8110.37. This process has worked for several decades with some variations added and subtracted over the years.

Now let's think about how this delegated authority works in practice. When an applicant applies to the FAA for a project, they have a list of regulations for which compliance needs to be shown and found. They may also have identified the DERs that they wish to use on the project. All good so far, but now how does the applicant know the DER can find compliance to the regulations he has identified? How does the DER know which regulations he has been delegated? How does the FAA know which regulations they have delegated? The answer is that there is a conversion process that takes place every time the FAA delegates authority to the DER. The DER has in his mind which rules he believes he has been delegated, and the FAA has a similar list. In most cases, this list is the same, or very similar. But no matter what, there is the seed for confusion in not knowing exactly what has been delegated.

Did you know?

- Due to the complexity of the PAY.GOV system, it may take up to six months to receive a refund for a payment made via electronic check versus a credit or debit card
- Acceptance of electronic signatures on 8110-3's is up to the managing office. However, if the managing office chooses to accept them they must adhere to the FAA policy on electronic signatures in FAA Order 8000.79
- There is no policy or procedure that requires DERs to use their designee number when dispositioning unsatisfactory conformity inspections on an 8100-1 form. Besides being unnecessary, there isn't anything specifically wrong with it. There are several instances where policy allows, but doesn't require, DERs to use their numbers on submittals to the FAA like certification plans. The specific prohibition is against the DER using his number is on company or personal reports, drawings, service documents, or letters (8110.37D 3-1. i.)
- The administrative delegation is not a delegation with authority prescribed by 14 CFR part 183, but rather a special delegation/authorization introduced by FAA policy to provide the Aircraft Certification Office assistance in the administrative aspects of certification. Since administrative DERs do not have the authority to find compliance on behalf of the FAA they are not associated with a particular chart for DER authority.
- As of March 1, 2010, the FAA no longer mails paper copies of Airworthiness Directives to aircraft owners and operators. You can sign up to receive this information electronically. If you have not already done so, go to http://rgl.faa.gov and sign up to receive electronic copies of Airworthiness Directives (AD) and Special Airworthiness Information Bulletins (SAIB). You can sign up by aircraft type as well as engine and propeller type. "This is an efficient and much faster way for you to receive important safety information," explains Jennifer Fleming, FAA Information Program Manager.

Ok, but the above has been true for many years, and we have found ways to work around it with varying degrees of success, why change now? To answer that we need to take a step back and look at what the agency is doing with the ideas of safety management and how that affects the way we manage our designees.

As part of the safety management system, several initiatives are taking place. One of these is the use of Risk Based Resource

Targeting (RBRT) for FAA projects. Another is the creation of a designee management system or DMS.

Let's talk about DMS first. DMS is intended to be an electronic system that will assist the FAA in all aspects of managing our designees. This is not just for AIR, but for all lines of business, including Flight Standards, and Aerospace Mecicine as well.

For the appointment process, as discussed above a system based upon regulations will clarify what exactly is delegated. The oversight process is where the information in a regulation based delegation system will really be useful. Knowing exactly what regulations a DER has, in conjunction with CFR prioritization allows for a quantitative evaluation of the risk of delegating the FAA determination of compliance. This in turn will allow us to determine how much oversight should take place. The same is true for renewal. Right now, Order 8100.8 allows for a DER to be renewed every 1 to 3 years, with no guidance on how to determine the length of time for any particular DER. Now, there will be a quantitative analysis that can help determine the correct length of the renewal period.

Another nifty feature of the DMS system will include electronic 8110-3s. Now with a regulation based system of delegation the system can check to see if the DER has the delegation for the regulation that they are finding compliance to, if not, then it will not allow the 8110-3 to be generated.

RBRT for FAA projects will use the regulation based delegation system in much the same way. That is, in conjunction with the prioritization of the CFRs there is now a quantitative analysis that can be done to assist in determining the level of FAA involvement required for any particular FAA project.

When are we going to be making this change? In order for DMS to work as intended we need to convert our existing DERs to this regulation based system prior to DMS coming online. An implementation plan has been developed and we are scheduled to start transition of our DERs in late 2010. DERs will be notified by registered letter that they need to log on and request the regulations for which they wish to be delegated. But, they will need to justify why they are qualified for the requested delegation. This justification could be in the form of a written document, or a previous 8110-3 that shows they have found compliance to a particular rule in the past. Once the DER has completed their request, the system will notify the advisor who will then need to review and agree to the requested delegation. Now the system has the exact regulations that have been delegated to the DER. This can be accessed and printed out in the form of a Certificate of Authority.

It is important to remember, that we are not in any way reducing what we delegate. We will be able to delegate under the new system everything that we can delegate today. The intent is not to reduce the authority of the DERs, but rather to clarify exactly what regulations are delegated.

Some other information about the new system:

- Organization Delegation Authorization (ODA) will not be affected at this time. The charts will remain in Order 8110.37 for their use. It is expected that eventually ODAs will transition to a regulation based system as well.
- Currently, a DER with appointment in multiple Disciplines (e.g. Structures and Mechanical Systems) has one advisor and one evaluator. Under the new system, they will have two advisors.
- Since administrative DERs and management DERs cannot find compliance to any regulation, the program, by design, will not recognize these types of DERs.

Changes Planned for ODA

May Now Approve Data for FAA-Managed Projects

In the first substantial change since the program's inception in 2006, the FAA plans to revise Order 8100.15, allowing ODA holders to "accept" ICA for designs approved under the ODA. This authority will be available to ODA holders with TC, STC, PMA or major alteration/repair approval capability beginning in late 2010. ODA holders with this authority will be able to accept all aspects of the ICA, which must currently be coordinated with the FAA Aircraft Evaluation Group. The ODA holders will be required to have an ODA staff member with 5 years of experience developing and coordinating ICA found qualified by the AEG.

In addition to ICA, the revision to the Order will also restructure the function codes for PMA ODA. With this change, only a single function code will be used for the issuance of all PMAs rather than the separate codes currently used for PMA by test and comp or PMA by STC/licensing. Using a single function code will allow PMA holders to perform the manufacturing/production functions necessary to issue PMA supplements based on any kind of design approval, including Identicality or Test and Comp approvals issued by an ACO. There currently aren't any provisions for those kinds of supplements to be issued under an ODA. However, the revision still won't allow for identicality determinations by the ODA holder. Those will still only be approved by the ACO.

> *"... allowing ODA holders to "accept" ICA for designs approved under the ODA."*

Policy was recently issued by AIR-100-"ODA Data Approval Authority"-which allows ODA holders to approve data supporting FAA-managed projects. When implemented, this will allow ODA holders to support more activity currently performed by DERs, including FAA-managed projects. Currently, ODA holders use DERs to support projects which exceed the authority of their ODA or STC projects prototyped at facilities not approved by the FAA.

Additional engineering approval functions are planned for the next revision to Order 8100.15 ODA holders in order to further decrease the need for DERs. Repair or alteration approval authority is also planned for STC or PMA ODA holders for approvals they issue under their ODA or for parts or articles they manufacture.

Major changes to the program will include 2 new ODA types managed by flight standards. Knowledge Testing functions included under ODA will incorporate the existing CTD, or computer testing designee, under ODA while a new program will allow an ODA holder to issue part 133 operating certificates for rotorcraft external loads operations.

Look for a draft revision to the Order later in 2010. You'll be able to find it, and other draft policies online at http://www.faa.gov/aircraft/draft_docs/.

ODA Administrator Training Now Online

ODA administrator training is now available online at the designee training registration system, https://av-info.faa.gov/dsgreg/. The courses that make up this training--"ODA Applicant Training, Part I" (and Part II) are cataloged under either AIR-140 or AFS-640 Courses. Part I consists of general ODA information applicable to all ODA administrators, and Part II consists of different modules for each ODA type. Administrators for new ODA applicants must now attend this on-line training as applicable to their ODA authority prior to appointment.

Since ODA holders may identify a number of different positions as "administrator" positions, this requirement is applied to the "Lead" administrator for the entire ODA and any "Lead" administrator for functional ODA types, TC, PC, PMA, etc., if identified.